

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed September 5, 2003. Claims 1-62 are pending in the Application. The Examiner has rejected Claims 1-62. Claims 1, 5, 17, 32, and 48 have been amended. Claims 16 and 47 have been cancelled. As discussed below, Applicant believes all pending claims to be allowable over the cited references. Therefore, Applicant respectfully requests reconsideration and full allowance of all pending claims.

Section 102 Rejections

The Examiner rejects Claims 1-3 and 32-35 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,223,041 issued to Egner, et al. ("*Egner*"). Applicant respectfully disagrees with this rejection.

Egner discloses a method and apparatus for dynamically assigning radio resources to a plurality of base stations based on historical loading to reduce interference. (*Egner*, Abstract). The estimated loading for each cell over a specific interval of time is determined and channels are assigned among communication cells to minimize communication interference. (*Egner*, Col. 2; Lines 30-49). Channel demand estimations are made based on actual traffic usage and loading estimations are made based on predicted traffic patterns. (*Egner*, Col. 4; Lines 26-35).

Independent Claim 1, as amended, of the present application recites the following:

A system for allocating bandwidth in a wireless communications network, comprising:
a geo-location tool residing on a computer-readable medium, the geo-location tool operable to:
receive data for a wireless communications network including a plurality of geo-location areas;
estimate bandwidth parameters for a geo-location area based on the data; and
generate, based on the data, a current usage map indicating real-time bandwidth being utilized at the geo-location area; and
an allocation engine residing on the computer-readable medium, the allocation engine operable to allocate bandwidth in the geo-location area based on its bandwidth parameters.

Independent Claim 32, as amended, recites similar, although not identical, claim limitations.

Claims 1 and 32 are Allowable over *Egner*

Claims 1 and 32, as amended, incorporate the limitations of cancelled Claims 16 and 47, respectively. The Examiner previously rejected Claims 16 and 47 under 35 U.S.C. § 103(a) as being unpatentable over *Egner* in view U.S. Patent No. 6,366,780 issued to Obhan ("*Obhan*"). For the reasons set forth below, Applicant respectfully disagrees with these rejections.

Obhan discloses a system and method for managing subscriber load within a terrestrial cellular wireless communication system. (*Obhan*, Abstract). Subscriber spectrum usage is tracked in real-time. (*Obhan*, Col. 2; Lines 38-39). The system performs operations that manage the use of the available spectrum according to the operating goals of the system operator. (*Obhan*, Col. 2; Lines 44-46). The system divides a service area into corridors for which operating rules are generated. (*Obhan*, Col. 2; Lines 62-66). The operating rules relate to the manner in which the available spectrum in each corridor will be managed. (*Obhan*, Col. 2; Lines 66-67). The system may make alterations to the system loading according to the operating rules when resource requirements change. (*Obhan*, Col. 3; Lines 3-7). The system uses accurate knowledge of the subscriber mix in making promotional offers to discount subscribers inviting them to make calls. (*Obhan*, Col. 12; Lines 38-40). The system can adjust the spectrum usage load by incentivizing or de-incentivizing use of the spectrum by adjusting the cost associated with using various spectrums. (*Obhan*, Col. 6, Lines 42-67).

Obhan fails to disclose generating a current usage map indicating real-time bandwidth being utilized at the geo-location area, as recited in Claims 1 and 32 as amended to incorporate the limitations of cancelled Claims 16 and 47. With respect to cancelled Claims 16 and 47, the Examiner states that *Obhan* discloses this limitation, while *Egner* is silent as to this limitation. (Office Action mailed 9/5/03, citing *Obhan*, Col. 2; Lines 40-45). However, the sections of *Obhan* cited by the Examiner merely disclose that spectrum usage is measured in both real-time usage and potential usage, but fail to disclose generating a current usage map indicating real-time bandwidth being utilized at the geo-location area. Therefore, both *Egner* and *Obhan* fail to disclose generating a current usage map indicating real-time bandwidth being utilized at the geo-location area, as recited in amended Claims 1 and 32.

Furthermore, neither *Egner* nor *Obhan* contain a suggestion or motivation to combine the references. In order to establish a prima facie case of obviousness through a combination of references, there must be some suggestion or motivation, either in the references themselves or in the knowledge available to one skilled in the art, to modify a reference or combine multiple references. See M.P.E.P. § 2143. Applicants respectfully argue that neither *Egner* nor *Obhan* disclose such a suggestion or motivation. "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of the combination." M.P.E.P. § 2143.01. *Egner* and *Obhan* fail to teach such desirability.

The combination of prior art references without any evidence of a suggestion, teaching, or motivation to combine results in taking the present invention as a blueprint for piecing together prior art to defeat patentability. See *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1998). This is impermissible hindsight as the invention cannot be viewed with the blueprint drawn by the inventor. See *Interconnect Planning Corp. v. Feil*, 744 F.2d 1132, 1138 (Fed. Cir. 1985). In the present Office Action, the Examiner is merely using the present invention as a blueprint to piece together elements of various references when these references fail to suggest or motivate any combination between them.

In rejecting the present claims as obvious over the prior art, the Examiner should present evidence that suggests or motivates the modification, as is required by Federal Circuit case law. See e.g., *In re Fritch*, 972 F.2d 1260, 1265 (Fed. Cir. 1992); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297 (Fed. Cir. 1985). Evidence of teaching or suggestion of the combination of prior art references to achieve the claimed invention is "essential" to avoid hindsight. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988). In the present Office Action, the Examiner has merely stated that it would have been obvious to one skilled in the art at the time this invention was made to combine the elements disclosed in the cited references. However, the Examiner cites no language in the prior art that would suggest or motivate the combination of references. "Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence" of a suggestion or motivation to combine references. *Dembiczak*, 175 F.3d at 999.

For at least these reasons, amended Claims 1 and 32 are allowable over the cited references. Therefore, Applicant respectfully requests reconsideration and allowance of Claims 1 and 32, as well as all claims that depend from those claims.

Section 103 Rejections

The Examiner rejects Claims 5-31 and 36-62 under 35 U.S.C. § 103(a) as being unpatentable over *Egner* in view of *Obhan*. Claims 16 and 47 have been cancelled as discussed above. For the reasons set forth below, Applicant respectfully disagrees with these rejections.

Claims 5-15, 17-31, 36-46, and 48-62 are Allowable over *Egner* in view of *Obhan*

Assuming, for the sake of argument, that a person of skill in the art would be motivated to combine *Egner* and *Obhan*, both references fail to disclose all of the elements recited in Claims 5-15, 17-31, 36-46, and 48-62 of the present application. Claims 5-15 and 17-31 incorporate all of the limitations of Claim 1, which is allowable for the reasons discussed above. Claims 36-46 and 48-62 incorporate all of the limitations of Claim 31, which is allowable for the reasons discussed above. In addition, Claims 5, 7-9, 12-15, 17-31, 36, 38-40, 43-46, and 48-61 are allowable over *Egner* and *Obhan* because they recite additional limitations not disclosed in the cited references, as discussed below.

Regarding Claims 5 and 36, *Egner* and *Obhan* both fail to disclose the geo-location tool operable to estimate bandwidth parameters for the geo-location area on a per service class basis and an allocation engine operable to allocate bandwidth in the geo-location area on the per service class basis based on the bandwidth parameters. The Examiner states that *Obhan* discloses this limitation, while *Egner* is silent as to this limitation. (Office Action mailed 9/5/03, citing *Obhan*, Col. 23; Lines 1-16 and 45-47.) However, the sections of *Obhan* cited by the Examiner fail to make any reference to using service class to estimate bandwidth parameters and allocate bandwidth in the geo-location area.

Regarding Claims 7 and 38, *Egner* and *Obhan* fail to disclose a source map comprising sources of bit usage in the geo-location area. The Examiner recognizes that *Egner* is silent as to this limitation. (Office Action mailed 9/5/03, page 5, ¶ 2). However, the

Examiner cites language in *Obhan* Claim 1 (Col. 26; Lines 1-16) as disclosing such a source map. However, a source map comprising sources of bit usage for a geo-location area is not disclosed in *Obhan*. For at least this reason, Claims 7 and 38 are allowable over the cited references. Furthermore, because Claims 8-9 and 39-40 depend from and incorporate the limitations of Claims 7 and 38, respectively, Claims 8-9 and 39-40 are also allowable.

Regarding Claims 12 and 43, *Egner* and *Obhan* fail to disclose a subscriber usage profile indicating the probability of a subscriber engaging in a connection in a geo-location area. The Examiner recognizes that *Egner* is silent as to this limitation. (Office Action mailed 9/5/03, page 7, ¶ 2). The language in *Obhan* cited by the Examiner as disclosing this limitation (Office Action mailed 9/5/03, page 7, ¶2, citing *Obhan*, Col. 2; Lines 40-45) does not disclose a subscriber usage profile indicating the probability of a subscriber entering into a connection in a geo-location area. The cited passage merely indicates that the *Obhan* system uses potential usage data to manage the use of the available spectrum according to the operating goals of the system's operator. (*Obhan*, Col. 2; Lines 40-45). Furthermore, because Claims 13-15 and 44-46 depend from and incorporate the limitations of Claims 12 and 43, respectively, Claims 13-15 and 44-46 are also allowable.

Regarding Claims 17, 21, 48, and 52, *Egner* and *Obhan* fail to disclose a current usage map comprising a peak rate for each active connection in a geo-location area. The Examiner recognizes that *Egner* is silent as to this limitation. (Office Action mailed 9/5/03, page 9-10). The language in *Obhan* cited by the Examiner as disclosing this limitation (Office Action mailed 9/5/03, page 9-10, citing *Obhan*, Col. 6; Lines 41-49) merely discloses that the *Obhan* system tracks spectrum supply and demand in each corridor and incentivizes use of underutilized spectrums. There is no discussion in *Obhan* of a current usage map comprising a peak rate for each active connection in a geo-location area.

Regarding Claims 19, 23, 27, 50, 54, and 58, *Egner* and *Obhan* fail to disclose usage or demand maps comprising primary and neighboring server information for each active connection within a geo-location area. The Examiner recognizes that *Egner* is silent as to this limitation. (Office Action mailed 9/5/03, page 12, ¶2). The language in *Obhan* cited by the Examiner as disclosing this limitation (Office Action mailed 9/5/03 citing *Obhan*, Col. 6; Lines 16-67) does not, in fact, disclose usage or demand maps that comprise primary or

neighboring server information. The cited passage merely indicates that the *Obhan* system contains an analytical engine that monitors spectrum demand and usage within the corridors and enforces the operating rules of each respective corridor. (*Obhan*, Col. 6; Lines 57-67).

Regarding Claims 20 and 51, *Egner* and *Obhan* fail to disclose generating a current demand map for the geo-location area. The Examiner states that *Obhan* discloses this limitation, but that *Egner* is silent as to this limitation. (Office Action mailed 9/5/03, citing *Obhan*, Col. 5; Lines 15-23). However, the section of *Obhan* cited by the Examiner merely disclose that the *Obhan* system uses current demand data and potential demand data to provides operating signals tot he system, but fails to make any reference to generating a current demand map for the geo-location area. Furthermore, because Claims 21-23 and 52-54 depend from and incorporate the limitations of Claims 20 and 51, respectively, Claims 21-23 and 52-54 are also allowable.

Regarding Claims 24 and 55, *Egner* and *Obhan* fail to disclose generating an expected demand map for the geo-location area. The Examiner states that *Obhan* discloses this limitation, while *Egner* is silent as to this limitation. (Office Action mailed 9/5/03, citing *Obhan*, Col. 6; Lines 35-40). However, the section of *Obhan* cited by the Examiner merely disclose that the capacity of the *Obhan* system is designed for the peak loading periods in each cell, but fails to make any reference to generating an expected demand map for the geo-location area. Furthermore, because Claims 25-27 and 56-58 depend from and incorporate the limitations of Claims 24 and 55, respectively, Claims 25-27 and 56-58 are also allowable.

Regarding Claims 28 and 59, *Egner* and *Obhan* fail to disclose an interference contribution map indicating the impact on resource usage of supporting various bandwidths at the geo-location area. The Examiner recognizes that *Egner* is silent as to this limitation. (Office Action mailed 9/5/03, page 12, ¶ 3). The language in *Obhan* cited by the Examiner as disclosing this limitation (Office Action mailed 9/5/03, citing *Obhan*, Col. 6; Lines 57-67) does not, in fact, disclose an interference contribution map, let alone an interference contribution map that indicates the impact on resource usage of supporting various bandwidths at a geo-location area. The cited passage merely indicates that when spectrum use exceeds a preset threshold, use of the spectrum is de-incentivized by adjusting the cost of the usage to encourage price-sensitive users to discontinue use to free up spectrum resources. (*Obhan*, Col. 6; Lines 57-67). Furthermore, because Claims 29-30 and 60-61 depend from

and incorporate the limitations of Claims 28 and 59, respectively, Claims 29-30 and 60-61 are also allowable.

Finally, with respect to Claims 31 and 62, *Egner* and *Obhan* fail to disclose an allocation engine operable to generate a bandwidth supply map indicating the available bandwidth at a geo-location area based on bandwidth allocation, a total bandwidth, and an interference contribution bandwidth for a geo-location area, as recited in Claim 31. Claim 62 recites similar, although not identical, elements. The Examiner recognizes that *Egner* is silent as to this limitation. (Office Action mailed 9/5/03, page 13, ¶ 3). The language in *Obhan* cited by the Examiner as disclosing this limitation (Office Action mailed 9/5/03, citing *Obhan*, Col. 6; Lines 35-67) does not, in fact, disclose a bandwidth supply map, let alone a bandwidth supply map indicating the available bandwidth at a geo-location area based on bandwidth allocation, a total bandwidth, and an interference bandwidth contribution for a geo-location area. The cited passage merely indicates that when spectrum use exceeds a preset threshold, use of the spectrum is de-incentivized by adjusting the cost of the usage to encourage price-sensitive users to discontinue use to free up spectrum resources. (*Obhan*, Col. 6; Lines 57-67).

For at least these additional reasons, Claims 5, 7-9, 12-15, 17-31, 36, 38-40, 43-46, and 48-61 are allowable over the cited references. Therefore, Applicant respectfully requests reconsideration and allowance of Claims 5, 7-9, 12-15, 17-31, 36, 38-40, 43-46, and 48-61.

CONCLUSION

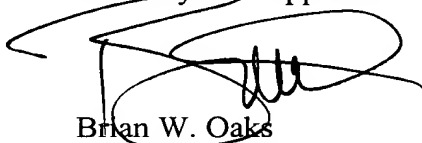
Applicant has made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicant respectfully requests full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Brian W. Oaks, Attorney for Applicant, at the Examiner's at (214) 953-6986.

Although no other fees are believed due, the Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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